REMARKS

This submission is in response to the final Official Action mailed January 11, 2008. Claims 1-8 and 10-20 were pending and were rejected.

As a first matter, Applicants wish to thank the Examiner for the in-person/telephone interview with Applicants' representatives on April 30, 2008. The following is the Applicants' statement of the substance of the interview pursuant to 37 C.F.R. § 1.133(b) and MPEP 713.04. The Examiner and Applicants' representatives discussed the current claims, distinctions over the prior art with respect to the "ribs" extending along substantially the length of the mold cavity, and the support in the specification for the claims and features recited in claims 1, 2, 19 and 20. At the interview, the Examiner agreed that ribs as claimed distinguished over the prior art of record.

1. Rejection under 35 U.S.C. § 112.

The Examiner rejects claims 19 and 20 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner contends there is no support for the claimed feature of the securing devices permitting longitudinal movement of the copper tube.

Applicants respectfully traverse the rejection. As a first matter, the Examiner should note that there is no requirement for the wording of a claim to found exactly or literally in the specification. *See Purdue Pharma L.P. v. Faulding, Inc.*, 230 F.3d 1320, 56 U.S.P.Q.2d 1481 (Fed. Cir. 2000) ("the disclosure as originally filed does not have to provide *in haec verba* support for the claimed subject matter."); *Union Oil Co. v. Atlantic Richfield Co.*, 208 F.3d 989, 54 U.S.P.Q.2d 1227 (Fed. Cir. 2000) ("The written description requirement does not require the applicant 'to describe exactly the subject matter claimed.'"); *Fujikawa v. Wattanasin*, 93 F.3d

1559, 39 U.S.P.Q.2d 1578 (Fed. Cir. 1996) ("*ipsis verbis* disclosure is not necessary to satisfy the written description requirement"); *In re Wilder*, 736 F.2d 1516, 222 U.S.P.Q. 369 (Fed. Cir. 1984) ("it is not necessary that the claimed matter be described identically" as in the specification); *In re Kaslow*, 707 F.2d 1366, 217 U.S.P.Q. 1089 (Fed. Cir. 1983) (the written description test is not "the presence or absence of literal support in the specification for the claim language"). Rather, the test is whether the specification describes "the invention in sufficient detail so that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention." MPEP § 2163(I).

Here, one skilled in the art would understand that the specification discloses embodiments permitting longitudinal movement of the copper tube. The specification, at page 7, lines 12-19, describes that Figures 1 and 3 are each "a ***longitudinal*** section through a mould" (emphasis added). This means that the Figures show a mold section cut along the ***longitudinal*** direction of the mold or tube. Thus, the specification defines the longitudinal direction as being along the length of the mold tube. This means that ribs 8 and 9 (Figs. 1 and 2), 28 and 29 (Figs. 3 and 4), and 59 (Fig. 5) extend in the longitudinal direction.

The specification goes on to say that the securing devices on the connecting ribs, which are connected to the copper tube, can comprise "T-profiles for ***sliding*** blocks" (emphasis added). *See* Specification at p. 5, line 26; p. 11, lines 12-13. The specification thus expressly discloses an embodiment of the invention where the ribs slide. It is also clear from the drawings, that while in such embodiments the connecting ribs are restrained in the direction transverse to the strand axis (see also specification at p. 5, lines 23-25 - "securing devices to prevent movements transversely to the strand axis"), the sliding ribs are permitted to slide in the longitudinal direction.

For example, in Figure 2, if connecting ribs 9 are "sliding block" embodiments of the invention, copper tube 3 can slide or move in the longitudinal direction, *i.e.*, into and out of paper in that view (in the up/down direction in Fig. 1). Similarly, in Fig. 4, if connecting ribs 29 are "sliding block" embodiments, the copper tube 23 can also slide longitudinally. Therefore, "sliding rib" embodiments of the invention permit longitudinal movement of the copper tube, and claims 19 and 20 are supported by the specification as filed.

In view of the clear support for claims 19 and 20 in the specification (including the drawings), Applicants' respectfully request the rejection under 35 U.S.C. § 112 be withdrawn.

2. Rejection under 35 U.S.C. § 103.

The Examiner rejects the pending claims under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,374,903 to Sears, Jr. or U.S. Patent No. 3,730,257 to Haussner and further in view of U.S. Patent No. 4,299,267 to Birat *et al.* further in view of U.S. Patent No. 4,167,211 to Haller. In the Office Action, the Examiner appears to acknowledge that the prior art does not teach using supporting ribs **and** connecting ribs as claimed, but contends that it would be obvious to use connecting ribs in view of Haller.

However, during the April 30, 2008 interview, the Examiner acknowledged that the cited art does not show or make obvious connecting ribs "with securing devices to prevent ***transverse*** movements of the copper tube" as claimed (emphasis added). Haller, in contrast to the claimed invention, permits ***transverse*** movement of the tubes because the T-profiles are oriented in a ***transverse*** direction. That is, as shown in Figure 2 of Haller, the tubes 8 can move transversely to the left and right. Thus, the prior art fails to teach or suggest the present invention and is not obvious. *See* MPEP 2143.01.

Applicants also note that Haller addresses a very different problem than that solved by the inventors. In the present invention, the inventors addressed the problem of distortions of the shape of the copper tube mold, and thus of the finished cast product, due to thermal stresses and expansion during high speed casting using thin-walled mold tubing. *See* Specification at page 1, lines 16-18; page 1, line 34- page 2, line 2; page 2, lines 24-26 (invention has "higher dimensional stability"); page 3, lines 10-12 (invention acts to "stabilise the geometry of the mould cavity against distortion of the thermally loaded copper walls of the mould tube"); page 10, lines 31-32 ("maintaining the geometry of the mould cavity"). This problem is addressed by the connecting ribs, which "ensure that bending of the copper tube toward the mould cavity 24 or lateral displacement transversely to the strand running direction can be avoided." *See* Specification at page 11, lines 7-10.

In contrast, Haller does not involve molds, mold cavities, or problems with thermal stress distortion of a mold causing deviations in the shape of a casting product. Rather, Haller is concerned with holding tubes in a heat exchanger "in requisite spaced relationship to facilitate uniform passage of the surrounding fluid through the housing and between the tubes." *See* Haller at col. 1, lines 31-34. The purpose of Haller is to provide a spacer for the tube bundles "without the need for welding" during assembly. *Id.* at col. 2, lines 17-19. This is accomplished using dovetail formations so that the tube bundle assemblies slide together. *Id.* at col. 2, lines 49-51. Haller is simply not analogous to the present invention, and teaches one skilled in the art nothing about how to prevent thermal stress distortion of a casting mold tube. Therefore, the invention as recited in claims 1 and 2 cannot be obvious.

During the interview, the Examiner raised the question as to whether, in the present claims, the ribs extended the length of the mold. Applicants respectfully submit that that issue is not relevant to patentability, because none of the cited art shows or makes obvious using supporting ribs and connecting ribs with securing devices as claimed, so as to prevent transverse

movements of the copper tube. As Applicants noted in their amendment dated December 21, 2007, the cited art utilize a different structure.

Nonetheless, in the present claims the ribs do extend over substantially the entire mold length. This is the necessary result of the recited structure. The claims recite that the cooling ducts extend "substantially over the entire mold length." *See* Claims 1 and 2. The claims also recite that the ducts are "delimited by" the ribs. *See id.* Thus, the ribs "delimit" the cooling ducts.

The plain and ordinary meaning of "delimit" is "to fix or mark the limits or boundaries of." Random House Webster's Unabridged Dictionary, 2d Ed. (1998) (attached at Exhibit A). Therefore, the ribs define the limits and boundaries of the cooling ducts. As the cooling ducts extend over substantially the entire mold length, and the ribs define the limits of the cooling ducts, the ribs ***must*** also extend over substantially the entire length of the mold in order to do so.[1] Conversely, if the ribs did not extend over substantially the entire length of the mold, they would fail to delimit the cooling ducts as recited in the claim.

[1] As a hypothetical analogy, if a room extends the length of a building, and the room is delimited by walls, the walls must also extend the length of the building.

Ribs extending over substantially the entire length of the mold is also expressly shown in the embodiments of the invention shown in Figures 1 and 3. In the figure reproductions below, connecting ribs 8 (Figure 1) and 28 (Figure 3) are shaded in solid black for demonstrative purposes.

Fig.1

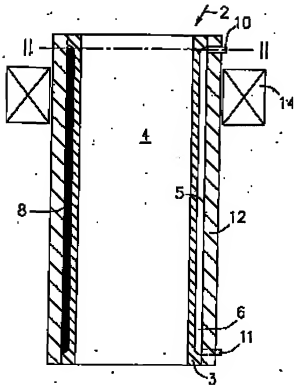
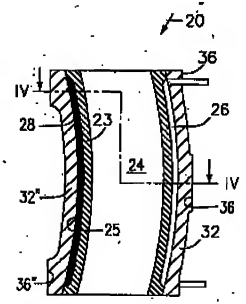


Fig.3



Consequently, claims 1 and 2 are clearly patentable over the cited art. As claims 1 and 2 are patentable, the remaining claims, which depended directly or indirectly on those independent claims, are also patentable. However, Applicants submit that the dependent claims are independently patentable for the reasons set forth in Applicants' December 21, 2007 Amendment. The rejection under 35 U.S.C. § 103 should be withdrawn.

In view of the above Remarks, Applicants submit that the application is in condition for allowance, that no new search is required, and respectfully request that the application be allowed to pass to issue.

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